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JEROME EDWIN HUNT, M.D., D.D.S.

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ORAL HYGIENE

A JOURNAL FOR DENTISTS

VOLUME III.

NUMBER I.

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ANALGESIA

By ARTHUR E. GUEDEL, M. D., Newton-Claypool
Building, Indianapolis

**What Analgesia Means—Why Nitrous Oxide is best adapted for
producing Analgesia—What shall we dilute it with—Preparing
for the operation—The power of suggestion—Depth of
Analgesia governed by operation—Self controlled
Analgesia best—Rebreathing—Technic—Summary.**

The ability to render the pain of cavity preparation negligible is one of the greatest gifts that have come to dentistry. In the paper printed below we have some excellent advice from a man who has given nitrous oxide for analgesic and anesthetic purposes hundreds of times in cases varying from tooth cavity preparation to amputation of limbs, child birth, and numerous other minor and major operations. I advise you to read it.

In making this report it is my desire to place before you a few observations pertaining to the state known as analgesia.

Analgesia, though known for many years, is only now coming into general use and much praise is due the dental profession for forwarding so practical a work. The field in minor surgery and obstetrical practice is but newly opened and there are yet but few physicians who are making use of it in this work. However, it is my belief that the merits of the state will place it in more general use in a very short time.

Analgesia, as defined in

our modern dictionaries, is a loss of the sensation of pain without a loss of the sense of touch. This is not quite a true definition of the state as used by surgeons and dentists in their operations today because there is no method of securing just that condition in all individuals. The pain sense is not wholly abolished; neither does the tactile sense remain undisturbed. The threshold of painful stimulus is ordinarily decidedly elevated in analgesia and consequently a greater stimulus is required to elicit painful sensation in this state than is required to elicit the same sensation without; *i. e.*, when the

threshold of stimulus is normal.

It is true that with the ordinary anesthetic agents the sense of appreciation of pain is abolished before consciousness is lost but so shortly before that the two phenomena almost meet; and it is extremely difficult in many instances to carry one's patient along that very narrow line which separates narcosis and the abolition of the pain sense. When it is possible to secure and to maintain that state, then we have ideal analgesia, with the patient free from pain of the operation, yet in possession of his mental faculties, although these are considerably depressed. In this state the patient responds to suggestions but slowly, and apparently with mental effort, and when called upon to speak, his words will issue slowly and "thickly" and he shows evidence that he would rather not talk. He will usually thoroughly enjoy the experience.

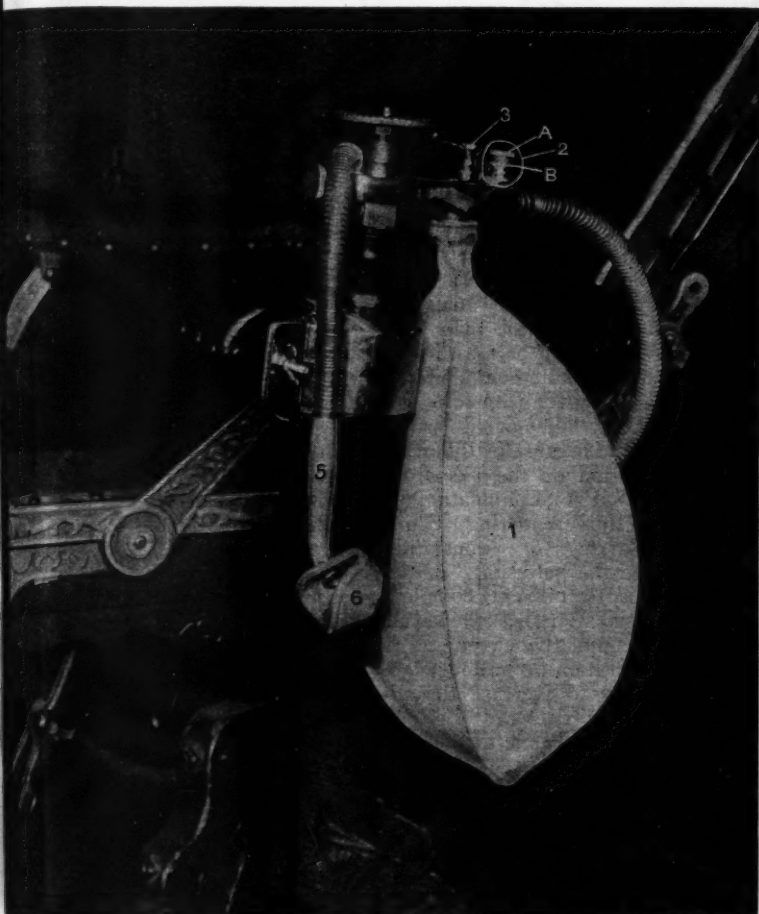
However, the fact that it is difficult to maintain the condition through that narrow latitude of "ideal analgesia" need not discourage the new operator because even the most unskillful application of the method is better than no application at all. The threshold of stimulus to pain is elevated, or the sense of appreciation of pain is lowered, in proportion to the amount of the anesthetic agent carried in the blood, provided due attention is given to conditions

governing the mental attitude of the patient. The stage of excitement, so much feared and so much talked about, can easily be controlled by the operator by observing a few of the simple rules mentioned below. I have never had any trouble in analgesic work with the so-called excitant stage. Be the analgetic agent morphine, choral, chloroform, ether, nitrous oxide, ethyl, chloride, or what not, a little is better than none at all in relieving pain of any sort, and the relief from pain is greater as the dose of the drug is larger.

It is well to say then that analgesia as it is used today in dentistry, minor surgery or obstetrics, is a condition secured by the administration of a drug, wherein the sense of appreciation of pain is greatly lowered or entirely abolished without total abolition of the sense of touch. The pain sense is lost before the tactile sense, which usually remains to some extent until consciousness is lost. The patient will feel but will not suffer.

The sensation was aptly described by Dr. Horace Thomson, Indianapolis, after some difficult cavity preparation on himself under nitrous oxide analgesia, as being "a bearable hurt." On another occasion his work was done by the same dentist with the same method and with no pain whatever.

The selection of the drug to be exhibited for the induction of analgesia for operative



Apparatus Attached to Arm of Chair

- 1—Rubber supply bag.
- 2—Circle inclosing combination respiratory valve, showing
 - A—Expiratory key, controlling quantity of gas rebreathed.
 - B—Inspiratory key, controlling quantity of air to be mixed with gas.
- 3—Stop cock, controlling flow of gas from supply bag.
- 4—Band for holding cylinder.
- 5—Hollow aluminum handle for holding inhaler.
- 6—Flexible rubber inhaler.

Note—There are no valves on the inhaler, these being placed back on the body of the apparatus so that they can be regulated without bothering the patient. There are no straps to the inhaler. The patient holds this himself.

work has been narrowed down to nitrous oxide. This for many reasons: Its action is certain, rapid and very evanescent; its by effects are nil; properly used it is devoid of danger and it is more easily properly used, as far as concerns analgesia, than any other anesthetic agent.

It is easier to approach the latitude of ideal analgesia with nitrous oxide than with any other drug because it can readily be diluted with definite quantities of air or oxygen, whichever diluent is being used, and because of the rapid elimination of the gas from the blood it accumulates but little, thus rendering it unnecessary to constantly change the percentage of the diluent to prevent complete narcosis. There is, however, some cumulative effect, and if the operation be prolonged, it is better to increase the diluent and decrease the gas from time to time as the case may require.

Analgesia with nitrous oxide was met with many years ago by Hewitt when experimenting with this gas and definite percentages of air to determine the effect of the diluted gas as an anesthetic. He at this time found that air in quantities of more than thirty-three per cent prevented complete narcosis, but gave only a semi-anesthetic state, the analgesia that we are using today.

There is no question as to the place occupied by nitrous oxide as an analgetic agent.

It ranks easily first. The question is what diluent shall be used, pure oxygen alone, atmospheric air alone, or both, and how much of each or either is necessary. Of course it is the oxygen that maintains life whether it be given pure or simply in its natural state in the atmosphere, while the nitrous oxide acts specifically on the nervous system.

Nitrous oxide pure induces analgesia; but pure, it carries the patient so rapidly through this state into anesthesia and then asphyxia, that it is of no value except for very short operations and of less value even in that narrow field than when diluted with air or pure oxygen.

The popular method of securing analgesia at the present time is this: The patient is given a mixture of approximately 75 per cent N_2O with 25 per cent oxygen until the analgetic state is reached, when a quantity of air equal to the quantity of gas and oxygen together is admitted, thus ordinarily preventing the patient from becoming narcotized and at the same time giving him enough N_2O to maintain analgesia. These percentages of nitrous oxide, oxygen and air are varied to suit the condition at hand, and are varied according to the ideas of different operators. Some induce analgesia with pure gas and then admit the air and oxygen together, or one of the two diluents shortly after the other. Some use the gas with small quantities

of air to secure analgesia and then further dilute the mixture with oxygen. Some habitually use smaller percentages of oxygen and larger of air, while other decrease the air and increase the oxygen. Some use no air at all, diluting with pure oxygen. But it all amounts to the same in the end. The patient is given nitrous oxide diluted with oxygen, either pure or mixed with atmospheric air in quantity sufficient to prevent narcosis.

The addition of pure oxygen to the mixture of gases, however, is not necessary. There is no manifest difference between gas-air-oxygen analgesia and that secured with gas and air alone. As far as danger to life is concerned, in analgesia the patient is never in danger because the dose of nitrous oxide administered is very small. The character of the analgesia and its depth depend upon the anesthetic agent. Oxygen, of course, is necessary but the quantity of this gas available from the atmospheric air is more than sufficient to support proper oxidation of the body tissues during analgesia for any length of time. Many cases are reported wherein the patient has been held in complete narcosis for twenty to thirty minutes with only atmospheric air as the diluent; and analgesia, as it requires much less $N_2 O$ than narcosis, leaves room for more air than is needed to maintain life. The

patient will not be able to recognize the difference between gas-oxygen and gas-air analgesia. The nitrous oxide produces analgesia. The oxygen maintains life and the atmospheric air as a diluent to the gas will furnish ample oxygen for that purpose.

In operating under analgesia many things enter to bring about success or failure. The patient is in a state where he is very susceptible to suggestion of any kind, and all things that tend to excite a normal individual before or during an operation will excite the analgetised individual to a much greater extent. Therefore, all noise should be eliminated from the operating room. There should be no loud talking; no rattling display of glittering instruments. There should be no blundering in the technique of the operation. A rough, unskilled operator will have but moderate success with analgesia. The operating room—usually the dentist's or physician's office—is better furnished without display of elaborate apparatus. A parlor or library in the patient's home would be the ideal place to secure proper analgesia because here there is nothing to excite his natural fear or dread of pain. The operator who drops a tray of instruments, or allows his telephone bell to ring unmuffled within a few feet of his patient is apt to have trouble with that patient.

On the other hand, because

the analgeticised patient is susceptible, and very susceptible to all extraneous influences, he is a particularly apt subject for positive suggestion. That suggestion plays a very important part in one's success with analgesia cannot be doubted. Every man has a wholesome dread of the surgeon's knife and the dentist's burr and he enters the operating chair with the high nervous tension of fear, a state which is directly antagonistic to success with analgesia. If the operator himself becomes nervous and excited, or attempts to hurry the operation, he is lost. His patient will invariably accept for himself to a greater or less extent the attitude of the operator toward the procedure at hand. The operator should move softly but firmly; should speak softly but firmly, and should make every movement and word count for something toward quieting the nerves of his patient. To babble incessantly about the wonderful effects of the "gas" in allaying pain is a mistake. He should not refer to it until the time comes to use it, and he should by all means avoid the word "gas" because nearly every man or woman has heard of gas as it was used of old and his acquaintance with it either directly or indirectly is apt to be unpleasant. Our advertising so-called painless dentists call it "vitalized air," or some other name that they conceive will catch the ignorant public fancy, and their

reason for this is based upon a sound psychological basis. They are aware of the prevalent abhorrence of the layman for all known anesthetics.

It is also a mistake to simply state to the patient that "it will not hurt." Much better is it to tell him that he will feel what you are doing but it will not be painful, because he *will* feel it and if he is not prepared to expect it, every sensation may be converted by his fearful mind into one of pain and he will leave the office dissatisfied. I have had patients to say after operations under analgesia that it had hurt but they thought it was hurting someone else and they did not mind. Other patients claim absolute freedom from pain, while others protest "it hurt just the same," but these latter come back and ask for the "air" the next time they need surgical attention.

In all analgetic work the operation itself must be carefully considered and the depth of analgesia regulated accordingly. The threshold of stimulus for the pain sense varies in the different anatomical structures of the teeth as it varies in different parts of the body. A much deeper analgesia is required to extract a pulp than to prepare the ordinary cavity for filling just as a deeper state is necessary to suture the prepuce than to suture a laceration of the forearm. If the operator does not know the location of the hyperaesthetic areas, he is

safer in working under the deeper state. It is better to err on the safe side when the error is of such little consequence.

It is here that one point must be emphasized. It is preferable for two reasons to permit the patient to hold the nasal inhaler in his hand than to strap it to his head. As long as he holds the inhaler there can be no danger, for even if complete narcosis be permitted, and this is often necessary during the course of an operation, the inhaler falls away or is pushed away by a muscular spasm of anoxemia and recovery quickly occurs. This relieves the operator of all anxiety as to the safety of his patient. Here the patient is himself the anesthetist and a safer one cannot be found. But with the inhaler strapped in place, the operator at once becomes the anesthetist and he is constantly and justly more or less anxiously watching the depth of his analgetic state. If for any reason his air or oxygen valve fail to work, unconsciousness and asphyxia may rapidly occur and he must quickly remove the mask to avert an accident. The freedom from this anxiety will enable him to better perform his operation and his work will be easier because of his mental rest. It is true that accidents rarely occur, but with the inhaler strapped fast in place they are easily possible. With the patient hold-

ing the mask accidents are practically impossible.

Then, too, we must remember that for successful operating under analgesia we must free the patient from all cause for alarm, must gain his confidence, must relax him completely; and it is certainly not conducive to a quiet, peaceful, mental state to strap the mask in place, thus placing him wholly at the mercy of your close attention. It is like placing harness for the first time on a young colt. All the reassuring words and promises will have little effect. The majority of patients would protest against that one procedure if they had the temerity to speak their opinions, and there are none but will accept the free method more readily and willingly than the strap. A uniformly better analgesia is secured by allowing the patient himself to control the inhaler.

Rebreathing of nitrous oxide is becoming more popular each day. It has the advantage of lessening the amount of the gas consumed and by breathing to and fro into the rubber supply bag keeps the gas warmed in a very effective manner.

Nitrous oxide is not changed chemically in the blood and that which is exhaled is the same as that inhaled. Of course it is mixed with CO_2 but this is in quantities so small as to make no difference with the analgetic state. We know that rebreathing influences consid-

erably the character of anesthesia by virtue of the CO_2 retained, but in analgesia so much air is admitted with the gas that rebreathing up to 75 per cent does not modify the state. I usually permit rebreathing from the start, of about 75 per cent of the gas. The results are good and the saving of gas is worth while.

As to the warming of the gases this, of course, is not to be forgotten. Gas being released suddenly from confinement under pressure of 1,000 pounds, which represents the cylinder storage pressure of N_2O , is very cold. If this gas is passed rapidly through a supply bag to the lungs it is very apt to irritate. In deep anesthesia for prolonged operations where pure gas and oxygen are being used directly from small cylinders, a vapor warming attachment of some sort is necessary. Also when no rebreathing is permitted, *i. e.*, when the cool gas is taken into the lungs and the full quantity expelled in the surrounding atmosphere, only to be replaced by more cool gas from the unwarmed supply bag, there must be inevitably, after a short time, a lowering of temperature in the pulmonary cavity with a consequent irritation of the mucous membranes. However, when the gas is rebreathed to the extent of fifty or seventy-five per cent, the expired gas serves to warm the fresh gas which is flowing slowly from the cylinder to the bag, and no trouble

from inhaling cool gases is ever experienced.

The retention of carbonic acid gas in rebreathing of nitrous oxide will influence anesthesia directly and favorably, but in analgesia the air content of the gas mixture breathed is so great that retained CO_2 is without appreciable effect.

My technique with nitrous oxide and air in analgesia is this: The supply bag is filled quietly and usually without the patient's knowledge. He is instructed to breath quietly and normally. This is important. There is no need for deep breathing either in anesthesia or analgesia and its practice may bring the patient into a state of acapnia with symptoms that are alarming, which alarming symptoms are unjustly attributed to the gas.

The mixture should be N_2O 90 per cent and air 10 per cent with fifty to seventy-five per cent rebreathed. After a few inhalations, when analgesia is established the air valve is opened thirty to fifty per cent and analgesia is carried indefinitely. The necessary quantity of air varies greatly with the individual and the operation and is occasionally as low as ten per cent, while often it is carried to fifty and the operator cannot determine the quantity of air needed in a given case until after the operation has been commenced.

SUMMARY

1. Operating in a minor

way under faulty analgesia is better than no analgesia at all but after a little experience the latitude of ideal analgesia is more easily secured.

2. It makes no difference what form of oxygen is used so long as there is enough of that gas available to maintain life.

3. The operation must be done quietly and gently with no evidence of haste. Everything that will serve to quiet the patient must be done. Everything that may excite the patient must be carefully avoided.

4. Analgesia seldom wholly abolishes pain. It generally only makes it bearable.

5. The operator should explain briefly to the patient just what he may expect during the procedure.

6. The anatomical location of the part being operated and its normal threshold of stimulus should be carefully considered and the depth of analgesia regulated accordingly.

7. The patient should be permitted to hold the inhaler. This is safer and contributes less to excitement. The inhaler should not be strapped in place.

8. Rebreathing saves gas and seems to keep it warm and does not impair the character of analgesia.

A LASTING LESSON

A North Carolina negro was brought out on the gallows to be hanged for murder.

"Henry," said the sheriff, "have you anything to say?"

"Yas, suh," said the condemned man. "Ise got a few words to say. I merely wishes to state dat dis suttinly is goin' to be a lesson to me!"

"John, am I all right for the theater?"

"My Dear, I hardly know what you consider all right. You have a dab of powder on each ear, but none on the tip of your nose."—*Washington Herald*.

The meanest man in England has just been discovered.

A cottager was asked by his wife to dig the potatoes in the garden. He consented, and after digging for a few minutes went into the house, remarking that he had found a coin. He washed the dirt off, and it proved to be a half crown. He put it in his pocket and went back to work. Presently he returned to the house, saying he had found another coin, which on being washed turned out to be a two-shilling piece. He put this in his pocket. "I have worked pretty hard," said he to his wife. "I think I'll take a short nap." When he awoke he found that his wife had dug the remainder of the potatoes but she had found no coin. It at last dawned upon her that she had been "taken in."

SURGICAL ANALGESIA

AND A NEW APPLIANCE FOR INDUCING IT

By **WILLIAM HARPER De FORD, M.D., D.D.S.**, Des Moines, Iowa
Professor of Oral Pathology and Anesthetics, Drake University
College of Dentistry

The following interesting paper, along with the preceding one, gives a comprehensive view of the present status of painless preparation of cavities. Dr. De Ford uses somnoform as his analgesia agent and seemingly gets the same results as are obtained by others with nitrous oxid. The paper is a most interesting one, as are all of the author's papers.

For a long time it was believed and taught that it was improper and dangerous to perform any surgical operation before surgical anaesthesia had been induced. It was not even permissible to operate during the stage of light anaesthesia, nothing short of deep surgical narcosis was tolerated. So far as I have been able to ascertain, Dr. Austin C. Hewett of Chicago was the first man to break away from this custom, and for years Dr. Hewett stood alone in his advocacy of operating during the analgesic period. When the news first came over the water that Sir James Y. Simpson of London had discovered that chloroform possessed anaesthetic properties, and that this agent was as potent as ether yet devoid of the disagreeable taste and smell of ether, the news was received with great rejoicing. Dr. Hewett at this time was a medical student. He became so much interested in the wonderful reports of this new anaesthetic agent

and was so curious to possess some chloroform in order that he might verify the statements that were almost beyond belief, at a fabulous price he obtained a small quantity of this agent from London and commenced to experiment.

It just happened that at the time the chloroform arrived this young investigator was suffering with an abscessed lower under tooth. Taking a few inhalations of the vapor of the chloroform, in a state of drowsiness, stage of "obtundure" as he expresses it, he pressed a lance against the gum covering the roots of the tooth, and when he removed the lance much to his amazement he discovered from the accumulated puss upon the blade of the lance that it had passed a quarter of an inch or more beyond the mucous membrane, and not a particle of discomfort was experienced. Then adjusting forceps to the tooth, he made gradual lingual and buccal pressure till the tooth loosened and thus extracted his own

tooth without pain, and so far as we know this was the first operation ever performed in this country during the analgesic stage, and the first operation performed in America under chloroform. After graduating in medicine Dr. Hewett for a period of twenty years, performed almost every operation known to surgery in the analgesic or obtundure stage, reserving only five or six operations for surgical anaesthesia. During all this period he was warned and cautioned by his medical friends that he was taking tremendous risks, was proceeding in violation of all rules and authorities, and finally they refused to assist in any operation performed during the obtundure stage. After twenty years of successful surgical practice without an accident or an approach to an accident Dr. Hewett relinquished the practice of medicine and surgery and devoted the remainder of his life to the practice of dentistry. Again for thirty years Dr. Hewett employed chloroform daily, many times daily in his dental practice, aiming never to go beyond the "obtundure" stage, and never experienced a dangerous or alarming symptom. The office of Dr. Hewett was open at all times to all members of the dental profession, and while he willingly and gladly instructed everyone seeking to learn this method without compensation or re-

ward he cautioned them at the same time that every known authority advised against operating in any other than the surgical stage of anaesthesia, and that if an accident should happen, a death from any cause whatsoever while they were operating in the obtundure stage that every surgeon in the land would testify that death was the result of improper administration, and the guilty party would be sentenced to the penitentiary or hang according to the law of the state in which the accident occurred. It is hardly necessary to add that the "Hewett Method" as it is known was not universally practiced, indeed only a man here and there was willing to take the risk.

On one occasion while doing some experimenting in a machine shop one of Dr. Hewett's fingers was badly crushed. He went to a phone and explained to a surgeon what had happened, saying, 'I am leaving now for your office; get ready for me.' When he arrived examination showed that it was necessary to amputate the crushed finger, and the surgeon jokingly said 'Dr. Hewett you must now take your own medicine,' handing him a bottle of chloroform. The cork was removed, and inhaling the chloroform to the "obtundure" stage, Dr. Hewett commanded the surgeon to proceed, and assisted him with the operation, not for a moment losing consciousness, or feel-

ing pain till the last stitch was taken.

The writer practiced this method daily in his dental practice for several years with



The writer's Nitrous Oxid and Somnoform Nasal Inhaler—Anaesthetic Induction Position. The tubing from any nitrous oxid appliance can be attached to this inhaler; also the DeFord somnoform valve and bag.

the same degree of success as had crowned Dr. Hewett's efforts, relinquishing it only when it was determined that the same results could be obtained by the use of nitrous oxide, nitrous oxide and air, nitrous oxide and oxygen and somnoform.

The term surgical analgesia is one that I have never seen in print, or employed myself prior to the writing of this paper and it should be defined before proceeding further. We are familiar with the expression surgical anaesthesia. We understand it to be the third stage or degree of anaesthesia in which there is complete loss of consciousness and sensation—the usual time to begin a surgical operation.

"Analgesia implies insensibility to pain; also, absence of pain; a form of partial anaesthesia"². It is a condition of insensibility to pain without the loss of consciousness. The sensation of touch may persist without the sensation of pain. One in a state of analgesia hears what is said, knows what is being done, makes reply to questions. Analgesia is the first degree or stage of anaesthesia, and differs visably, mostly in that in surgical anaesthesia the patient is in a condition of profound unconsciousness, while in surgical analgesia the patient knows what is being done, answers questions, follows directions such as "open the mouth a little wider," "turn your head towards me,"



Operating Position — Mouth cover everted and held firmly—continuous nitrous oxid or somnoform analgesia induced through the nose.

and makes oral response to such questions as, "Am I hurting you," "Do you mind what I am doing," and the like.

Surgical Analgesia then, implies a state or a condition of the patient in which, without complete loss of consciousness certain surgical procedures



Mouth cover everted — somnoform valve and bag attached to the inhaler for inducing somnoform analgesia or anesthesia.

may be accomplished without inducing pain; or the pain incident to the operation as ordinarily performed is held in abeyance to such an extent as to elicit no objection on the part of the patient.

All the general anaesthetic agents with which we are acquainted have their analgesic stage or degree just as surely as they have their anaesthetic stage or degree.

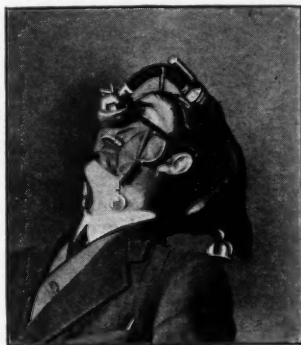
The four stages of anaesthesia according to Hewett⁴ are:

- 1st. Analgesia.
- 2nd. Light Anaesthesia.
- 3rd. Deep Anaesthesia or narcosis. Surgical Anaesthesia.

- 4th. Bulbar paralysis.

The stage or degree which I denominate surgical analgesia

varies in different individuals; with some it is present at the very beginning of the analgesic stage, with others it is absent till we approach or reach the beginning of the light anaesthesia stage. In the stage of light anaesthesia we have complete loss of consciousness. If the patient is carried this far, we go beyond the surgical analgesia stage and the results are not as satisfactory as when operating a little sooner. In other words when analgesia is maintained at the degree in which consciousness is not lost, and the patient still understands what you are doing, and is able to assist you to the extent that they will respond to commands and answer questions, then we



Mouth cover removed. Rubber dam adjusted. Somnoform valve and bag attached to inhaler for continuous somnoform analgesia or anesthesia.

have the ideal condition. The moment consciousness is lost, the light anaesthesia stage is present, they no longer understand what you are doing, be-

come confused and alarmed, move around enough to discommode you, as they are experiencing excessive stimulation.

In the stage of analgesia we have present a slight rise of blood pressure and slightly increased respiration, conditions conducive to safety. In the stage of light anaesthesia respiration is deeper and quicker than normal and hearts action excited, hence patients are more apt to become excited, and having passed into unconsciousness cannot assist the operator to the extent that a patient can who responds to such demands as "Turn your head towards me," "Elevate your chin," "Swallow," and answer such questions as "Am I hurting you," "Do you mind what I am doing," etc.

It is not easy to maintain this stage of surgical analgesia I admit, but practice makes perfect and with increasing experience it becomes easier till after awhile one can usually gauge the degree to suit the case in hand. All beginners err in the matter of giving more of the anaesthetic agent employed than is necessary, or admitting it in too great a volume or too suddenly or continuing it too long. In April I witnessed a nitrous oxid clinic in New York City in which one of the patients, who was having some sensitive cavities prepared made quite a little disturbance, and the clinician afterwards ex-

plained that while telling his audience the nature of the clinic and what he proposed to do, this patient slipped past the analgesic stage and was somewhat advanced in the stage of light anaesthesia, when he touched the bur to the tooth, and being too deeply anaesthetized to understand what was being done rebelled against it. I might also add that this man had been drinking heavily all day, we learned later.

All the general anaesthetic agents with which we are acquainted have their analgesic stage or degree just as surely as they have their anaesthetic stage or degree.

It is an almost universal procedure to administer chloroform to the degree of inducing analgesia in child birth. This not only reduces the pain incident to this function making it bearable, but so relaxes the muscles and tissues as to render delivery easier and safer.

Dr. Wolf of Washington, D. C. told me that on one occasion, a tall, gawky, raw-boned, awkward specimen of humanity came to his office for tooth extraction. He placed him in a chair, procured a forceps, and just as he was about to operate this man said, "Wait a moment please," drew from his pocket a small bottle, removed the cork, and took several inhalations. "Now you may proceed," he said, and opened his mouth. The tooth was extracted painlessly, the bottle contained chloro-

form. The patient was Abraham Lincoln.

Ether is the anaesthetic agent usually administered for tonsilotomy—but rarely is it carried to the degree of surgical anaesthesia—nearly always the operation is performed while the patient is in the analgesic stage. The analgesic stage is insisted upon at the Mayo clinic at St. Mary's Hospital, Rochester, Minn., for this operation, and the same is true of most professional and hospital anaesthetists. When surgical anaesthesia is induced for tonsilotomy, blood is apt to find its way into the lungs, so a degree of analgesia is maintained that will permit the patient to either swallow or expectorate the blood as it accumulates.

Dental work is disappointing to both patients and dental surgeons, not because the average dental surgeon does not know proper cavity preparation, and correct abutment preparation, but because of the necessary pain and discomfort to the patient, and the wear and tear on the nervous system of the operator to do this work thoroughly when the patient is suffering excruciating pain at his hands.

Some fifteen years ago when somnoform was first introduced to the profession, early in its administration it was discovered that even after the patient returned to consciousness and was able to converse, there remained a considerable period of time

during which loosened roots could be extracted, lacerated gum tissue trimmed with scissors, and exposed portions of alveolar process removed without discomfort to the patient.

It occurred to me that as this stage of analgesia was present immediately after the patient returned to consciousness, that possibly a condition of analgesia might be present just before the patient lost consciousness. Experiments with this end in view quickly showed that there was a degree of analgesia present just before consciousness was lost as had previously been determined just after consciousness had returned. Further experiments demonstrated that in the case of many just a little somnoform inhaled, without even approaching the state of unconsciousness, indeed, before the patient has gone beyond the first feeling of stimulation there was present a condition of analgesia that made it possible to pinch the patient, remove hairs from the wrist or head, prepare sensitive cavities, etc., without discomfort.

As an illustration of somnoform analgesia I cite the following case:³

Some four years ago last May, at The Nebraska State Dental Society, in session at Omaha, Dr. Frank Hetrick called me to his chair and his case is as follows: He was trying to prepare cavities in the approximal surfaces of two central incisors for fillings. These teeth had become

so sensitive that it was impossible to proceed further. The patient a dentist, residing at Lincoln, gave the following history: "My teeth are so sensitive that no one has ever been able to make a satisfactory cavity preparation. At our state meeting last year at Lincoln I sat four hours, with the rubber dam adjusted, trying to have prepared a cavity in an upper molar for an inlay. Cocaine, eucaine, pressure anaesthesia all failed, and it was necessary to discontinue and fill the cavity with cement.." I said do you object to taking a few inhalations of somnoform? If you will do so the cavity preparation can be completed painlessly. He replied, "In my case that is impossible, but I am willing to try anything." The agreement was that if he found that he was being hurt, or thought that he was going to be hurt, he was to raise his hand. I gave him two or three inhalations of somnoform, and signalled Dr. Hetrick to begin operating. The Doctor did quite a little cutting and the patient started to raise his hand. Some one remarked, "Are you being hurt?" He replied, "No, and I do not want to be hurt." I gave him two or three more inhalations, and the preparation was completed as Dr. Hetrick wished it, and not more than two minutes were consumed. The patient turned to me and said, "Doctor, there has not been a particle of pain and I would go to Europe if necessary, to

have somnoform for future dentistry."

The discovery that operations can be performed painlessly by inducing surgical analgesia is second only in importance to the discovery of what may be accomplished under surgical anaesthesia, and far more valuable to the dental surgeon than complete surgical narcosis, while many times each day, and for almost every patient that enters his office, analgesia can be induced to great advantage for both the patient and the dentist.

Suggestion plays a very important part in analgesia induction. Indeed, some men are able to use suggestion to such good advantage that any kind of an appliance becomes only a means to accomplish the desired result. Sometimes only enough of the anaesthetic agent is necessary to convince the patient you have a means at hand to prevent pain. Many, many times I have succeeded in completing sensitive cavity preparation and even extracted roots and teeth by holding a somnoform inhaler over the nose while a few inhalations of air were admitted. Just recently at the Pennsylvania State Dental Society a gentleman who was giving a nitrous oxid clinic for analgesia induction placed the nasal inhaler in position on the nose of his patient and proceeded to explain to those present the *modus operandi* of administering the anaesthetic. Noticing that his patient had fallen

asleep he turned to the assistant and said. "You may discontinue the nitrous oxid now," and she replied, "I have not turned it on yet."

At the last annual meeting of the National Dental Association at Washington, D. C., in September, Dr. Frank Hetrick, of Ottawa, Kansas, was down for a table talk on "The Uses of Suggestion in the Treatment of Sensitive Cavities." The writer knows that Dr. Hetrick successfully applies this method in his daily practice.

Surgical analgesia can be induced without suggestion by such agents as nitrous oxid, nitrous oxide and air, nitrous oxid and oxygen, chloroform and somnoform, but by suggesting in a quiet but forceful manner, "There will be no pain," "I am not going to allow this to hurt you," etc., only a minimum quantity of the anaesthetic used will be necessary. And after two or three sittings, when you have gained complete confidence of your patient, you will frequently find out about all the anaesthetic necessary is enough for the accustomed odor. Patients frequently suffer more mentally than physically in the dental chair, and this dread and fear must be overcome or dispelled in order to accomplish good results in the matter of permanent dental operations. Those who have only witnessed public clinical demonstrations have no conception of the results that can be obtained in the quiet of a well

arranged office with no one present but the patient and the regular assistant. The most difficult of all clinics for successful accomplishment or termination of what is sought to be gained is a public anaesthetic clinic where there are so many disquieting influences present before, during and at the conclusion of the administration. Some one nearly always insists on bidding the patient "Goodbye," or calling out "I will meet you in Heaven," or "if you never awake I will look after your best girl," etc., and the constant laughing and talking of the lookers on does much to avert success, especially during the analgesia stage, when the patient can witness a sea of upturned faces, some over anxious, others smiling, and in their semi-unconscious condition such things are enough to defeat success. *To be successful in inducing surgical analgesia with or without the aid of anaesthetic agents one must be masterful, must completely dominate the patient or failure will result.*

There is a period of surgical analgesia for every patient, but this stage varies as to time, depth and duration with individuals depending upon their peculiar susceptibility to pain, state of mind, etc. I recall a case which I have mentioned in other papers that very well illustrates this statement. A live pulp had been removed from an upper molar and the roots filled at the same sitting. Patient returned next

day with a mild condition of traumatic pericementitis. In reaching for my bottle of iodine and creasote to make an application to the gum over the roots, the bottle dropped and broke, the contents being lost. I dipped the same pellet of cotton prepared for the iodine into my chloroform bottle and applied this to the gums buccally and lingually. This patient dropped off into a nap lasting five minutes. At other sittings I used chloroform, in the same manner, for sensitive cavity preparation for this patient, having ascertained accidentally how quickly and beautifully she responded to its analgesic properties.

In that class of patients in which extreme hypersensitivity of dentine prevails, and those patients who are dominated by fear and dread to such an extent that they know they cannot have this or that done in a dental chair, the analgesic stage is not so quickly induced, and it may not be of sufficient depth to do painless work, in which event it is only necessary to go a little farther and induce surgical anaesthesia. Unless surgical anaesthesia is induced you fail to get satisfactory results. It will not do to stop in the stage of light anaesthesia in these cases, but that depth of anaesthesia is indicated that should be induced for an extraction case.

As I have already remarked, the most satisfactory period for operating during surgical analgesia is just short of un-

consciousness, when the patient can assist by answering questions and following commands, but if at this stage of analgesia pain is still felt, or the mental dread has not been overcome, then induce surgical anaesthesia by slipping past the stage of light anaesthesia.

The stage of light anaesthesia is so much more profound in somnoform than in nitrous oxid, one can come nearer accomplishing results in the stage of light anaesthesia than with nitrous oxid, but it is better with both of these anaesthetic agents, in my opinion, when satisfactory operating cannot be obtained in the stage of analgesia to induce complete surgical anaesthesia. Either operate in a stage when the patient can assist as explained, or carry them far enough so that they will not worry, fret and resist.

Properly administered, nitrous oxid and oxygen, nitrous oxid and air and somnoform have proven to be valuable and safe in the matter of inducing surgical analgesia. There have been no deaths or accidents reported from the use of either of these agents, or chloroform, for sensitive cavity preparations.

The writer has for years maintained that to allay the pain induced by the dental surgeon in routine work was highly beneficial to the patient. Now comes the news Dr. Johannnsen of Copenhagen,⁵ after an elaborate series of experiments has given to the market grower an

effective method of rapid flower reproduction *based on an intensification of the plants resting period*. He showed that plants submitted to the influence of the vapors of chloroform and ether were afterwards capable of an astonishingly rapid growth. The French gardeners are now employing this method. When in an entirely restful condition specimens of lilacs, azaleas, lilies of the valley, and other plants are placed in an airtight box. A small vessel affixed to the lid of the box is filled with chloroform or ether and the cover placed in position. Being heavier than air, the vapors rush to the bottom of the box and mingle with the plants. At the end of forty-eight hours the specimens are taken out and grown in the ordinary manner. Nothing in the way of forcing is required, and without the employment of any great degree of heat the plants develop in a most remarkable manner. Lilacs were in full bloom within a fortnight after being placed in the vaporizing chamber, while lilies of the valley were hardly so long in coming to maturity. In no way did the treatment harm the plants, which produced flowers and foliage in profusion. If enforced rest and relaxation will do so much for flowers, is it not reasonable to suppose that to minister to our patients so that they shall not be hurt or feel pain during dental operations, and to banish fear and apprehension

of pain, will prove beneficial rather than detrimental.

Just a word relative to the financial end of this analgesic and anaesthetic proposition. *I beseech you to insist upon proper remuneration*. Patients will go to the limit in the matter of fees if dental work can be executed painlessly. Only eight per cent of the people of the United States regularly visit a dental office—convince the people that dental operations can be done painlessly, and this condition will no longer exist. The question of fees does not keep the masses away from our offices, and let us not repeat the mistake that was made by our profession when Carl Kohler discovered the anaesthetic properties of cocaine. At that time a hypodermic injection of a remedy was a sacred procedure. Physicians only in the direst extreme resorted to this means of treatment. The fee was never less than five dollars. When it was announced that solutions of cocaine hypodermically injected rendered the tissues anaesthetic to the extent that teeth could be extracted painlessly the custom became almost universal. But what about the fee. A man is a *rara avis* who asks a fee greater than the usual extracting fee when making use of hypodermic injections of cocaine. Such a procedure is many, many times more perilous than nitrous oxid or somnoform administration.⁶ The former would be caused by the intrinsic danger of the

drug, the-latter from disregard or danger signals. The contents of a hypodermic syringe once discharged into the tissues—the drug reaches the heart in about fifteen seconds, and no known power can withdraw this agent from the system; if the patient is not behaving properly under nitrous oxid or somnoform administration, it is only necessary to shut off the anaesthetic and admit air. In addition to the risk one takes in hypodermic injection of cocaine, waiving the fact that a physiologic dose for one patient may prove to be a fatal dose for the next patient, the danger of infection from improperly sterilized needles, and the risk of forcing into the tissue some septic material in saliva, gingival secretion or gum tissue itself with the following osteomyelitis and necrosis to say nothing of general pyaemia, throwing in the time consumed in waiting for complete anaesthesia as good measure, and only the usual extracting fee is charged. This proceedure has cheapened and made common hypodermic medication, and thousands have become addicted to the cocaine habit from first having had it used for tooth extraction, while there is not the remotest chance of any one ever becoming a nitrous oxide or somnoform fiend. Had the proper fee been maintained for the hypodermic injection of cocaine solutions, it would have prevented the wholesale and promiscuous

extracting of thousands of good teeth. It would have made the fee for extracting a tooth as much if not more than it would have cost to place that tooth in a healthy condition by means of filling or inlay. If we are to employ a general anaesthetic for sensitive cavity preparation, let us insist upon proper remuneration. We are (dental) surgeons, and are entitled to surgical fees. The nose and throat specialist will remove a tonsil, charge a fee from \$15 to \$75 and the anaesthetist receives from \$5 to \$10 additional. A dental surgeon makes ready to fill the roots of a septic molar tooth and fills these roots, a very much more difficult and risky operation than a tonsilotomy, how much does he charge for such an operation? For removing an appendix a surgeon charges from \$75 to \$300. This operation is not nearly as difficult as the removal of a badly impacted third molar. How much does the dental surgeon get for this operation? A business or professional man who has lost \$75-\$100 in a little game of poker, just a little game to help him to forget for an evening the cares of the store or office, will next day in your chair, insist that \$10.00 is an exorbitant price for a crown. A lady patient with a \$25.00 hat, \$75.00 piece of fur, and a \$100.00 gown will argue eloquently in an effort to have you place a seven dollar inlay for five dollars. These things are all out

of proportion as to their real worth, and it is time that we as a profession were getting properly paid for our services. And let me insist upon proper remuneration for operations

under general anaesthetics ever bearing in mind that it is the anaesthetic element that makes it possible for the general surgeon to receive proper fees.

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A NURSERY RHYME

By ORANGE REO, New York City

With Apologies to Mother Goose and Rudyard Kipling

Sing a son of sickness,
Of walking floors at night:
Sixty-nine varieties
Of germs all in the fight.

Babes with teething tortures;
Youths with swelled up
jaws;
Grown-ups unable to masti-
cate
The food they eat. Because?

The teeth are hidden away
from view

In a dark, damp cavity,
Where the germs unmolested
in myriads are nested,
A sickening sight to see.

If you study your teeth with
a looking-glass
And clean them each day
spic and span,
They will do all their work
with never a shirk
And what's more you'll
feel—like a man!

DEAD EASY

Larry—I like Professor
Whatshisname in Shakes-
peare. He brings things home
to you that you never saw
before."

Harry—Huh. I've got a
laundryman as good as that.
—Dartmouth Jack-o'-Lan-
tern.

HARD LUCK

"Bill's goin' to sue the com-
pany fer damages."

"Why? Wot did they do to
'im?"

"They blew the quittin'
whistle when 'e was carryin'
a 'eavy piece of iron, an 'e
dropped it on 'is foot, b'dad."

EDITORIAL



GEORGE EDWIN HUNT M.D., D.D.S. EDITOR
131 EAST OHIO STREET, INDIANAPOLIS, IND., U.S.A.

ORAL HYGIENE does not publish Society, Announcements, Obituaries, Personals, nor Book Reviews. This policy is made necessary by the limited size and wide circulation of the magazine

WASTED OPPORTUNITY

All you officers and members of local and state dental societies should read what I have to say below.

I consider the motion picture film, "Toothache," to be the greatest aid in the mouth hygiene movement that has been brought to light. You will agree with me when you see the effect it has on lay audiences. It will reach and appeal to millions of people who cannot be interested in any other way you can mention. That statement is absolutely true.

So, in this film, we have an agency for great good to the movement and on that score alone it deserves the united support of the profession. *But*, when in addition to that, a local or state society can actually make the film a source of revenue, can absolutely make honest, legitimate money from it, to place in their treasury and use for further hygiene activities, or to throw to the winds, if they prefer that, it becomes a proposition which nothing but folly will permit you to overlook. You are wasting a golden opportunity if you do not act on the advice in this editorial.

Let me work it out for you—get down to brass tacks—as it were.

The members of your local society go down in their pockets and raise \$150 to buy a film. They may donate the money if they wish to do so but it need be nothing but a loan, if you prefer it that way.

On receipt of the film, it is put in the charge of some live, hustling committee or committeeman. This person goes to the managers of one, two, three, or a dozen motion picture houses, according to the size of your city, and talks to them along the following lines:

"We have a standard film, 1,040 feet long. It is made by the Motionscope Company, of Indianapolis, an independent concern. The film has no advertising on or about it. It is pleasing as well as instructive. Here is the scenario; look it over.

"The board of education has agreed to have the teachers in the various schools near you here, tell the pupils about it on the day before you show it, letting them know what time you will run it during the day.

"The newspapers have agreed to print a reading notice about it and if they do not we will put in an advertisement, signed by the society, calling the attention of the public to the time and place of its showing.

"The members of the society will also advertise it among their patients and friends.

"So we have a film you want even without this extra publicity, but we will give you this extra advertising, anyhow.

"How much per day will you pay for the use of the film, under these circumstances?"

The answer to that question, in various localities, has varied from \$5.00 to \$25.00 per day.

After covering your home place, your committeeman lets the dentists in surrounding towns and cities know that the film is for rent, at \$5.00 per day.

The dentists in a nearby town send in their five dollars for one day's rent, go to a good picture house, make the talk outlined above, and get their rental money back from the manager.

So that the only people who really spend any money on the proposition are those who buy pasteboard tickets at the box office for five or ten cents each. In other words, the general public pays the bill for its own education and is satisfied because it is being amused also.

If you do not want to work it that way, do it your own way, but the above is a way by which you can put money in the society's purse. The film will earn its own original cost and from \$200 to \$400 more for your society, if properly handled.

And the sad part of it all is that I have been writing letters to scores of society presidents all over the United States and cannot even get a reply from them.

I have hundreds of inquiries from all over the country from dentists who want the film shown in their town. All of these will be turned over to the nearest local society live enough to see and grasp this opportunity.

Three state associations have brought films at this writing. December 10. I am looking after the association film for Indiana and am charging five dollars a day rental for it. Why not? The general public pay the bill anyhow and the hygiene committee of the state association might as well have that money as the motion picture man.

The dentists of Melbourne, Australia, read about it in ORAL HYGIENE and *cabled* for a film.

The Youngstown Dental Society sent their \$150 for a film ten days before films were ready for delivery *and not a man in the society had seen it.*

Fifteen films have been sold to date and a dozen more orders are "on the fire." Not an order has come from east of the Alleghany mountains, except from the Rhode Island state board of health, who received their film among the first. New York state, with its wealth of population and of local societies, and New England, fully as well equipped for using the film to advantage, are still inertious, if there is any such word and if there is not, there should be.

How about it, you officers? Are you going to let this opportunity pass by? Western Pennsylvania bought three films, Ohio bought five, Indiana has bought three, with two more in prospect. Other states have one or more. How about you?

THE THIRD YEAR

With this issue ORAL HYGIENE begins its third volume. That the second year was a better one for the magazine than the first one is probably acknowledged by all its readers. It is my hope that the third year will surpass the second.

Besides getting out twelve interesting issues in 1912—it is unnecessary to argue whether they were interesting or not. I admit they were—the magazine put out thousands of school examination blanks at the cost of printing and hundreds of school room posters at the cost of printing and handling. In addition to these activities the editor and publishers have assisted materially in getting the motion picture film, "Tooth-ache," before the profession and public. Not a bad record for an infant publication, is it?

From occasional letters received it is evident some of you have no idea of the scope of this magazine or what it is doing for you and for the cause of oral hygiene. As modesty was ever my long suit, I propose to tell you about it. ORAL HYGIENE is the only magazine in the world—or the universe, so far as I know—which goes to every English speaking dentist on the face of this terrestrial globe. Once a month, every English speaking dentist whose name and address we have, receives his copy of ORAL HYGIENE. Besides going to all of the dentists in the United States, England, Canada, Australia, New Zealand, Cuba, South Africa and Norway, it goes to all English speaking dentists in France, Germany, Switzerland, Mexico, Chile, Argentine Republic, Italy, Columbia, Hawaii, Japan, Roumania, Brazil and Spain. And the list grows as rapidly as more English speaking men are found. Some magazine circulation, that. It is the only magazine in dentistry

LISTERINE

The best antiseptic for a dentist's prescription

As a daily wash for the preservation of the teeth, and for maintaining the mucous membrane of the mouth in a healthy condition, Listerine occupies a first place in dental and oral therapeutics.

Listerine is truly prophylactic, in that it exercises an inhibitory action upon the acid-forming bacteria of the mouth, and thus maintains the alkaline condition so necessary for the welfare of the teeth.

It is peculiarly well adapted to the requirements of general dental practice:

**To cleanse and deodorize before operating,
To wash and purify the mouth after extracting,
To treat, antiseptically, diseases of the oral cavity,
To prescribe as a detergent, prophylactic mouth wash.**

These well-established qualities have won for Listerine the highest recognition as the best general antiseptic for a dentist's prescription.

Supplies of an interesting treatise on mouth hygiene, may be had, free of expense, for distribution among patients. A specimen copy, of "The Dentist's Patient," together with an order form, will be sent upon request.

**"The
Dentist's
Patient."**

LAMBERT PHARMACAL CO., Locust and 21st Sts., St. Louis, Mo., U. S. A.

Put it here



IT'S SO EASY

to drop waste cotton from your pliers into the Aseptic Cotton Receiver that to throw such things on the floor is almost criminal.

Imagine your patient's thoughts when he emerges from your chair to find a small snowstorm of cotton all over the floor!

To change those thoughts is worth a great deal more to you than the \$1.00 the Aseptic Cotton Receiver will set you back. Buy it NOW.

**LEE S. SMITH
& SON CO.**

PITTSBURGH, PA.

and the only one I know of in any profession, which has one hundred per cent. circulation among those who can read it.

All this is made possible by a syndicate of twenty odd dealers in dental goods. These men pay the bills and take as their share the first four pages of advertising in each issue. They are the men who make it possible for you to get the magazine each month. The cover and first four pages of advertising are in twenty-odd different editions. All the rest of the magazine is the same in all editions. These men do not send you the magazine from purely altruistic motives. They cannot afford to do that. They send it to you in the hope and desire that you will buy some dental supplies from them. Not that they have no disinterested interest in the mouth-hygiene movement for they have and many of them have contributed as liberally of their time and money in support of the cause as any of the profession, but they could not afford to pay the bills and put a two-cent stamp on every magazine that goes out, for philanthropic reasons alone. Did you get that "two-cent stamp" remark? True as gospel. As we have no subscription list, the post-office charges us third-class rates, which means two cents postage on each magazine. If we could send them through the mails at the pound rate, as newspapers and magazines are usually sent, it would reduce the postal bill \$683 on each month, or \$8,190 per year. I had no idea there was that much money in the world.

Right here a lot of you are saying to yourselves "Rank! Awful rotten, to print such an editorial. Evidently dictated by the business office. Poor chap has to follow orders," and a lot more. Rave on, brother, rave on. Except the compositor and proof readers, no one but I will see this editorial until it starts in the mails to you and it will come as much of a grateful surprise to the members of the syndicate as though it had been money from home. I am writing it because I never did believe the "don't he look natural" flowers were ever so sweet and pretty as the "we have in our midst" ones.

So ORAL HYGIENE is unique in a way. It covers an important field in dentistry in a way no other magazine attempts to do. (Regards to the *Dental Dispensary Record*, *Oral Health* please write.) I do not see how it can grow bigger, owing to that post office rule, but I hope it will grow better than ever.

NO CAUSE FOR FEAR

"Is your horse afraid of an automobile?"

"No," replied Farmer Cornfossel; "why should he be? He don't know anything about how much it costs to run one."

MASQUERADING

Customer—Is that a real ostrich feather?

Draper—What, for tenpence? Oh, no, madam, ostrich is merely its non de plume.—London Telegraph.

One Dentist's Practical Method of Treating Stained Teeth

A well-known dentist writes us this letter, which he permits us to publish for the consideration of his fellow doctors of dental surgery.

It demonstrates the remarkable cleansing qualities of

Dr. Lyon's **PERFECT** **Tooth Powder**

"Gentlemen:

My method of using your powder for stained teeth is as follows:—Take a cup shaped Abbott or Robinson bristle brush, insert same in the hand piece of the dental engine; polish with Dr. Lyon's Tooth Powder, first moistening with hydrogen peroxide. In the past months that I have used same I have had some badly stained cases. My results have been perfect."

Send for the **Complimentary** **Pound Can**

If you are out of Dr. Lyon's you will need a supply at once to try this method of treating stained teeth.

Send your request on your professional stationery or letterhead and the pound can of Dr. Lyon's will go forward promptly all charges prepaid.

We are glad to have you use Dr. Lyon's freely at our expense because in the constant use of it, new ideas of great value like the above are continually developed.

I. W. LYON & SONS

520 West 27th St.
New York

SCHOOL POSTERS AND EXAMINATION BLANKS

In our November issue I printed a lot of stuff about the motion picture film and also about a new school-room poster we had just gotten out. I am inclined to think the news about the film overshadowed the poster, so I am again calling your attention to the latter, and printing the cut of it once more.

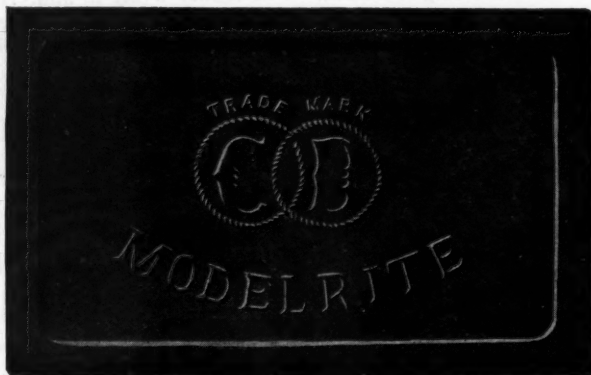
The poster is a very attractive one, twenty-seven inches long and fifteen inches wide. It is printed in four colors on good, heavy enameled paper, bound with brass at top and bottom and with a brass ring at the center of the top, so it may be hung up.

The poster is probably more appropriate for use among the primary grades than the older children. In putting them out in the schools you should explain to the teachers, so they can pass it on to the children, that the reading matter in the upper left hand side is the key to the pictures. "Clean mouths mean good teeth and no toothache. Good teeth and good chewing of your food means good health. Good health means good school work. Good school work means you do not have to stay in after school."

Above in the right hand corner we have the small boy cleaning his teeth. Below we see the school-room with the



MODELRITE



It softens in hot water and is pliant and waxy to bite into, insuring accurate impressions of even the softer tissues of the mouth. It hardens quickly and evenly. It becomes very hard and it does not warp. It is not sticky and does not shrink; thus, absolutely accurate impressions will always be secured with it. Its accuracy, cleanliness and convenience, and especially its low price now place MODELRITE far superior to plaster for impressions.

It produces bright, strong, clear impressions defining the lights and shades more sharply than any other material.

PRICES

Per half-pound box of 4 cakes.....38c

Two boxes for.....75c

For sale by all leading dental dealers

Consolidated  Dental Mfg. Co.

**New York
Boston**

**Chicago
Detroit**

**Cleveland
Philadelphia**

same boy taking his departure and smiling at the little girl kept in school for failure in her lessons. The inference is obvious.

And by the way, that addition problem on the black-board of $14+4=16$ was intentional. It is supposed to be the problem the little girl missed. One reader wrote in and criticized my arithmetic with some severity. Realizing what reason he might have had for it, I imitated 'Brer Rabbit, "lay low, and sed nuthin'."

These posters may be had of the dental dealer who sends you this magazine at the following prices:

One poster	\$0.25
Six posters	\$1.35
By the dozen.....	\$2.50 per dozen

In the meantime, if you want dental school examination blanks, we have arranged that you may get them from the Addison Printing Company, 643 Liberty Avenue, Pittsburgh, Pa., for the following prices:

1 pad of 100 blanks, by mail, prepaid.....	\$0.25
5 pads of 100 blanks, by express, collect....	0.65
10 pads of 100 blanks, by express, collect....	1.25

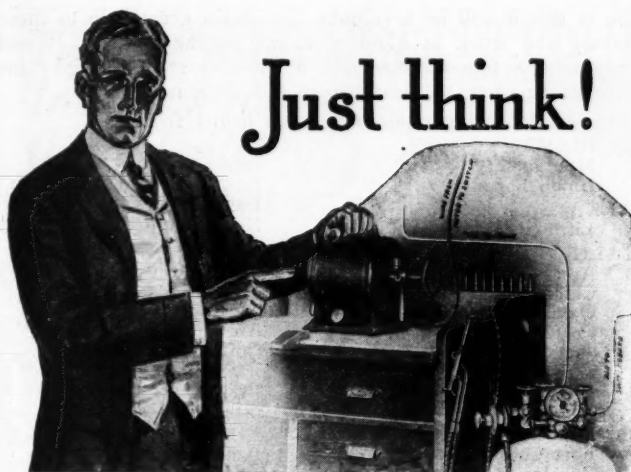
Each pad has a carbon paper with it and is all ready for use. As these are being sold you at the cost of printing, money must accompany the order. Do not forget it takes two blanks for each child examined, one for the child and one for you to keep.

ABOUT STATISTICS

In the October number of ORAL HYGIENE was a loose, yellow slip asking certain questions concerning the progress or non-progress of the oral hygiene movement in your city. In an editorial in the same issue I begged you to fill out the slip and return it to me but either I am a bum beggar or many of you are stony hearted, for I did not receive the number of replies I hoped for.

Enclosed in this issue you will find, I trust, a loose card asking again for this information. Please fill it out and mail it to me. If there has been nothing done in your city, say so but say something. Do not be ashamed to say nothing has been done for you are with the majority in that respect.

Let me tell you what I am trying to do. I want to prepare a card index of all cities, stating what is being done in each. This will be kept up to date, with your assistance, so that at all times, workers trying to get mouth hygiene started in their community; can get information concerning what is being done in other communities. If you will help



Just think!

It costs less than one cent per hour to operate an

Electro Dental Laboratory Lathe

WHAT OTHER LATHE can be operated for that amount, or even twice that?

Operating cost is the big item to watch in an investment of this kind, because it has such an important bearing on every day's running expenses.

Next to operating cost comes conveniences—the things that also figure in economical operation.

This lathe has several features that all other manufacturers have thought important enough to try to imitate.

If experts think they are good enough to imitate, they ought to be good enough to have on the lathe you buy—don't you think so?

Now, while you are interested, fill in this coupon, and let us send you our catalog explaining what this lathe's advantages are, as well as the advantages of the whole Electro Dental Line.

DO IT NOW!

Electro Dental Mfg. Co.

1223 Cherry Street
PHILADELPHIA

--- RETURN THIS COUPON NOW ---
ELECTRO DENTAL MFG. CO., 1223 Cherry St., Philadelphia, Pa.
GENTLEMEN:—You may send me catalog and
complete information.
Name.....
Street Address.....
City.....
O. H. 1-11

me in this it will be a valuable list and a great help to those having the work in hand now and in the future. It will only take a few minutes and a one-cent stamp to give me this information, so please do it and do it now.

The following cities have been heard from:

ALABAMA

Montgomery
Union Springs

ARKANSAS

Little Rock

CALIFORNIA

Arcata
Chico
Oakland
Porterville
Sacramento
San Diego
Selma

COLORADO

Denver
Fort Collins
Pueblo

CONN.

Greenwich
Hartford
New Britain
New London
Shelton
Waterbury

DISTRICT OF COLUMBIA

Washington

FLORIDA

Jacksonville
Miami
Orlando

GEORGIA

Albany
LaGrange

ILLINOIS

Belvidere
Bloomington
Canton
Chicago
Dwight

ILLINOIS (con.)

Elmhurst
Freeport
Kewanee
Mt. Sterling
Paris

INDIANA

Columbia City
Morocco
Richmond
Rockville
Warren

IOWA

Davenport
Dunlap
Independence
North English
Scranton
Shell Rock
Waterloo

KANSAS

Atchison
Coffeyville
Ft. Scott
Pratt

KENTUCKY

Ashland
Paducah

LOUISIANA

New Orleans

MASS.

Boston
Fitchburg
New Bedford
Springfield

MICHIGAN

Albion
Ann Arbor
Detroit
Grand Rapids
Reed City

MINNESOTA

Alexandria

MISSISSIPPI

Clarksville

MISSOURI

Clinton
Neosho
St. Joseph

MONTANA

Billings
Missoula

NORTH CAROLINA

High Point
Raleigh

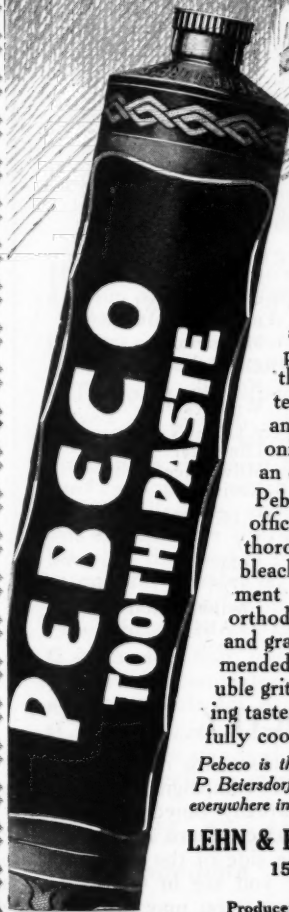
NEBRASKA

Alliance
Auburn
Merna
Superior
Wausa

**Tooth Preservation
Involves more
than Toilet
Refinement**



**It is a Matter
of Science**



Pebeco Tooth Paste inhibits fermentation, because it is scientifically formulated to excite a free flow of normal, alkaline saliva. This neutralizes any acid present in the mouth and corrects the conditions wherein harmful bacteria exist. Furthermore, Pebeco is an anti-acid in itself, a direct antagonist of decay-producing bacteria and an oxidizer of food remnants.

Pebeco is an efficient supplement of office treatment because it is also a thorough tooth cleanser, polisher and bleacher. Dentists report the improvement effected by its use on discolored orthodontia appliances to be most marked and gratifying. Pebeco is safely recommended because it contains no indissoluble gritty matter. Its peculiarly refreshing taste leaves the whole mouth delightfully cool and wholesome.

Pebeco is the product of the hygienic laboratories of P. Beiersdorf & Co., Hamburg, Germany, and is sold everywhere in large 50 cent tubes.

LEHN & FINK, Manufacturing Chemists

152 William St., New York

Sole Licensees in America

Producers of Lehn & Fink's Riveria Talcum

NEVADA

Yerington

NEW JERSEY

Millville

Newark

Trenton

NEW YORK

Addison

Auburn

Elmira

Ilion

New York City

New Paltz

Rochester

Salamanca

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Charlotte

Shelby

OHIO

Akron

Athens

Blanchester

Cincinnati

Lore City

Sidney

Toledo

Washington Court House

Warren

Zanesville

OKLA.

Waurika

OREGON

Ashland

Portland

PENNSYLVANIA

Altoona

Coatsville

Indiana

Jeannette

Johnsonburg

Lancaster

Millheim

McKeesport

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Norfolk

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WISCONSIN

Lancaster

Milwaukee

Racine

FOREIGN COUNTRIES

ITALY

Rome

CANADA

Guelph, Ontario

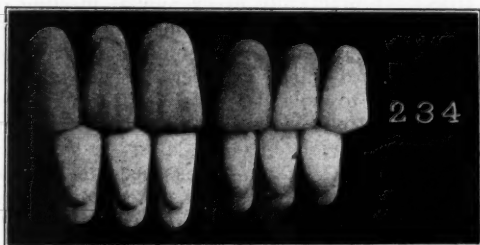
SCOTLAND

Glasgow

RECIPROCITY

Dr. Bernard J. Cigrand, the able editor of the *American Dental Journal* is making a vigorous campaign for reciprocity between state boards. It is a worthy object to fight for. In Indiana, and in many other states, there is a small city directly on the State line. On one side of the street you are in Indiana and on the other side you are in Ohio. If you have a license to practice in Indiana, you may do so legally on the Indiana side of the street but if you should take a water syringe, a pair of dressing forceps, some cotton and

MOLD MAKING AS AN ART HAS FEW MASTERS



IN the making of molds there is often a lack of certain *artistic details* and necessary *scientific knowledge* which tends to make the finished product compare favorably with the *natural* organs which they are intended to replace.

¶ The *original* patterns of *Justi Teeth* are first carved in plaster, making an allowance for the shrinkage, which takes place during the process of burning, as shown in above cut. From these *original* carvings, in which all the *artistic* details must be embodied, the *master patterns* are made, and this explains the *uniformity* of molds after having been on the market for many years. The making of *master patterns* is an expensive proposition, entailing an outlay of many thousands of dollars. From these patterns the working molds are made.

¶ After more than *half a century* of *mold making* we have accumulated the most complete line of molds, suitable for every *individual* case.

¶ The *largest* and *most complete* line of molds, which have standardized the tooth world in *all kinds* of teeth, is made by

H. D. JUSTI & SON

Philadelphia

Chicago

a bottle of clove oil across the street and relieve the tooth ache of your neighbor over there, you would be a criminal, if the prosecuting attorney could prove it on you, inasmuch as you had violated the laws of the commonwealth of Ohio. Isn't it absurd?

Dr. Cigrand calls attention to the fact that every clinician before our societies, who gives a chair clinic in a state in which he has no license, is a wilful violator of the law. That is true. At practically every annual meeting of every state society and at every annual meeting of the National Dental Association, bright and shining lights in the dental profession, many of them members of dental examining boards and sworn to uphold the law in their own state, as deliberately and wilfully violate the dental law as any burglar or sneak thief ever violated other laws.

Isn't it silly that a man who has been in honorable and helpful practice of dentistry for ten, fifteen, or maybe thirty years in a certain state, should not be permitted to practice in another state without taking an examination! It certainly is—silly.

ABOUT THOSE MOTION PICTURES

By JOHN CRIMEN ZEIDLER, D.D.S., New Orleans, La.

Not knowing who the party may be, I know not to whom to direct my praises, but whomsoever he may be I have only the highest praise for him—his was a master mind, a manly mind, one who was equal to the occasion, one who realized what advantages were to be dispensed, and one who made the showing of the manner and methods of taking care of the teeth a real live fact; not the one who thought about it, but the man who out and did it, and whoever he be; he is a great man for it is only those kind that really do things while others are talking about it.

Personally I have not seen the picture, but I have read

the scenario of it as published by the obliging editor of ORAL HYGIENE, and to me it 'stacks' up admirably. I can see no reason why this film as a starter cannot bring about the desired result. The simplicity of the picture in itself is appealing, and I feel assured that whomsoever is so fortunate as to witness it as it is reeled off on the screen will be greatly impressed with it.

A person who ordinarily hears of a thing is not quite so favorably impressed as when he has seen it in motion pictures. This creates an everlasting impression and is by far of greater benefit than lengthy talks.

The Financial Side of Dentistry

UPPER *1934* *1935*

Dr. J. H. Smith *Dr. J. H. Smith* *Dr. J. H. Smith*

DATE		DESCRIPTION	AMOUNT	CREDIT	BALANCE
1934	1-1				
1934	1-15				
1934	2-1				
1934	2-15				
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1935	12-15				
TOTAL					
OTHERS TOTAL					
BALANCE TOTAL					
BALANCE					

Receipt in appropriate book to 1935 book table

The System Exhaustive and Beautiful

Whether you are satisfied or not with your present method of bookkeeping, it will pay you to look into the Illustrated Catalog of the Reith Modern Dental System and realize your fondest hopes, "Simplicity and Perfection". Complete in beautiful covered Trays and special

designed Filing Cabinets for the card system, also in Loose Leaf Ledger form, Quality and Efficiency predominating.

Catalog Sent on Request

Reith Modern Dental System Co.

1004 Homewood Ave.

Pittsburgh, Pa., U. S. A.



ASEPTIC CEMENT SLAB CAN'T SLIP

When you mix up cement, the slab creeps all over your bracket table, unless you hold it with the other hand.

A one-armed man can use the Aseptic Mixing Slab. It has four rubber feet, one in each corner.

It is made of white opal glass, top surface ground and polished, and if you want one, the price is half a dollar.

LEE S. SMITH & SON COMPANY - PITTSBURGH, PA.



¶ His admiration of your Pressed Steel White name approval. ¶ *It is his guarantee that* r of
 ¶ It wouldn't be at all consistent to use a te En
 and rubbers in. ¶ The very appearance of is be
 ordinary cleanliness. ¶ You can't keep a ween cal
 isn't costly; it is just as easy as carelessness if yo
 of the *demands* of twentieth century dental practice

Send for the book, and learn how and why can

LEE S. SMITH & SONS
PITTSBURGH,

THE OFFICE WHERE CLEANLINESS PREVAILS

No placards are needed in this office. "Cleanliness" is the first thing the patient thinks of when he looks around an operating room equipped like the above.

White Enamel Furniture amounts to more than mere *office methods are above reproach.* The White Enamel Dental Cabinet to put your hat on this beautiful piece of furniture invites extra-ordinary cleanliness. Cleanliness if you're sufficiently persistent. It is one dental office and you can't afford to ignore it.

White Enamel can increase your fees from 25% to 50%.

H & SON COMPANY
TSB GH, PA.

The field is so large that there is hardly any telling just how much we can benefit the public, and I for one feel that the profession throughout the country should lend all their possible aid in making this a grand success. It's going to be successful whether or not you help; it's simply bound to be, yet I feel that we can simplify matters a great deal by co-operating with the men who have so diligently worked at it. It ought to be made the duty of all societies to have this matter taken up, seriously and energetically, and in the end the benefits of it will be readily recognized.

Now that we have this film I figure that we can equally as well make 'rabid' oral hygienists out of the public, as we have been accused of making outlaws and thieves out of them through the influence of the motion pictures.

We can so impress the minds of the younger one, and older one also, that it cannot but help doing good, and then again we can, figuratively speaking, so disgust them with the prevailing conditions that they will readily accede to taking extra precautions. Already we have a few 'toting' their brushes to work with them, and this only through printed articles and confabs by the dentist, and if we can accomplish so much by that route—well there is not any telling just what we can accomplish by the other route,

An example of what an impressive factor the motion pictures play is illustrated by a conversation which I held with a patient. Having the sanitary drinking cups, as well as everything else sanitary in my office, she commented upon same being a truly delightful thing, and said that she did not fully realize what 'perfectly dreadful' things those drinking cups were until she saw flashed upon the screen the millions of tiny, creepy, crawling microbes that infested an ordinary drinking cup taken up on one of the day coaches of a railroad. Here is an ideal example of what those pictures did. She had been told time and time again of what dangers lingered near them, and paid no heed, but when they were shown to her, her mind received a direct reaction, and now—well I'm mighty glad that I had those cups in my office when she called.

The idea of having the pictures displayed to the school children is a very good one, and one where the opportunities are equally as great. Quite a number of the schools in the larger cities are equipped with the machine and this makes the matter a very simple one. To impress minds while they are young is quite an easy matter, and in instances we should use quite different means than we would ordinarily use with the grown-ups. The children are being told daily of what importance their little teeth are;

A California Dentist's Tribute to Codrenin as a Local Anesthetic.

I have been using Codrenin for three or four years with such gratifying results in extraction that I feel it my duty to mention the fact so that more of the dental profession may use it both as a practice builder and a boon to suffering patients.

I have used in my twenty years' practice almost everything in the way of local anesthetics, but I will gratefully say that there is nothing that will in any way compare in efficiency with Codrenin, R_x "A."

On August 1st I extracted fifteen teeth and five roots for a lady patient with absolutely no pain and no after-effects, systemically or otherwise.

Any dentist who properly injects Codrenin will make friends and money by its use.—H. F. CALDER, D.D.S., Los Angeles, Cal.

* * *

We supply two preparations of Codrenin, as follows:

CODRENIN, R_x "A."

(Cocaine 2-per-cent. solution with Adrenalin 1:15,000.)

Each fluidounce contains: Cocaine hydrochloride, 9 1-5 grains; Chlorotone, 2 1-4 grains; Adrenalin chloride, 1-36 grain; Physiological salt solution, q. s.

CODRENIN, R_x "B."

(Cocaine 1-per-cent. solution with Adrenalin 1:5000.)

Each fluidounce contains: Cocaine hydrochloride, 4 3-5 grains; Chlorotone, 2 1-4 grains; Adrenalin chloride, 1-12 grain; Physiological salt solution, q. s.

As a combined local anesthetic and styptic, Codrenin is invaluable in the extraction of teeth and in other operations. It may be used full strength if the operator so chooses, or it may be diluted as desired by addition of physiological salt solution or boiled distilled water.

Codrenin, R_x "A" and R_x "B," is supplied in one-ounce glass-stoppered bottles and may be obtained of any druggist.

LITERATURE ON APPLICATION.

Home Offices and Laboratories,
Detroit, Michigan.

Parke, Davis & Co.

likewise they are told that Minneapolis is in Minnesota, but sometimes they forget whether it is part of Egypt or the late limelight place Bulgaria; likewise do they forget their tooth brushes, but if we show them with real live pictures, the filth, the millions of "creepy, crawling germs" that infest unclean mouths, we will then to a greater degree make them more liable to remember their daily brushing—and visits to the dentist.

Here is opportunity within your grasp, do not fail to recognize it. Gather in old Father Time by the forelock and get busy, for here is the one real live chance to bene-

fit humanity and yourself—for we are benefited by those whom we benefit—sometimes.

That this method is the ideal means of reaching the masses is readily realized by the wizard of electricity, Thomas E. Edison, who intelligently remarked that he considered this method the one and ideal one of reaching out to educate the public up to the importance of having their teeth attended to. When thousands agree, and we can all agree on this, why not quit agreeing for awhile and get busy educating. They need it you will all admit, and now it is up to us. *George is dead, so Do It yourself.*

"THE OTHER SIDE OF DENTISTRY"

Being a few reminiscences from professional life, practical in the fact that human nature is both the active and passive participant

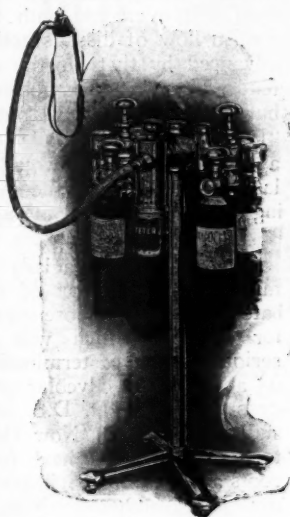
J. S. INGRAM, D.D.S., Kansas City, Mo.

No doubt every practitioner in the realms of dental science has experienced at some time or other, yet many, the situation of having been the audience to an exceptionally mirthful remark or ludicrous opinion. Certain it is Mark Twain could have gleaned some excellent material for some of his masterpieces of characterization, if he had only been connected intimately with the modern "Knight of the Forcep." Surely the laity, the inexhaustible source of this said flow of amusement (oft causing perplexing predicaments as well), are easily to be excused as, where is the inhabitant of this globe or hemisphere who has not made mistakes. Where is he so versed in worldly wisdom that can withstand the queries and propositions of all vocations of life without at some time or other being the unlucky impersonator of jest, folly, or seemingly fool remark? Solomon alone stands unparalleled.

The experiences herein mentioned, I know, are only a mere inkling of the vast material that could be gathered from an assembly of dental surgeons, but if you should crack that stiffened face, or reflect to happy moments of the past by these brief extracts, maybe your memory will be kindled with another stick or so of imaginative fibre.

THE TETER REGULATED PRESSURE GAS APPARATUS

The TETER Regulated Pressure Gas Apparatus represents the embodiment of perfection in scientific administration of nitrous oxid and oxygen.



It is the ideal apparatus for the dentist, the anesthetist or the hospital. It is provided with regulators which are built in the head of the apparatus and which reduce the pressure from the small cylinders the same as do the regulators on the large cylinders. Our controlling valves enable the operator to secure an even and steady flow of the gases which is so essential to the proper administration of the anesthetic.

Painlessly prepare all cavities and extract all teeth with the TETER REGULATED PRESSURE GAS APPARATUS, because it is

THE MOST

{ Easy to Operate
Accurate
Economical
Practical
Efficient

ONE VALVE

{ Controls the Gas Pressure from the Cylinders
Shows the exact percentage of Gas used
Admits the amount of Gas required
Controls the Regulator Pressure Gauge

All gases are delivered warm with the vapor warmer, which thereby saves the gases and produces a more pleasant and effective anesthesia.

NO ASSISTANT NECESSARY

Write us for catalogue and literature, giving us, at the same time, the name of your dealer.

THE TETER MANUFACTURING CO.

Williamson Building

Cleveland, Ohio

"Now Mrs.—would you like a white crown on this anterior tooth? A gold crown as you suggested would be very much out of place and exceedingly conspicuous." "No, I don't want and you can't give me any of those dead people's teeth to put in my mouth—don't you get them from the undertaker?" Proof was finally acceptable.

"Will you have gas," he asked as he carefully examined a few broken down roots doomed for extraction. "Why certainly," she excitedly exclaimed, "you don't suppose I am going to stay in this dark room alone with you?"

The old Irishman had considerable difficulty in finding his way to the portals of the office, and evidently it was his first visit to our ranks. A typical Pat of universal fame was he. "Say Doc, I av a tooth here I wan'stuffed."

"Don't you know Doctor, that my grandmother had three sets of teeth? Seems strange, doesn't it, but she did."

"Doctor that plate you made for me broke while I was chewing on some soft bread or mush. I don't remember just exactly which it was." "Oh, that's nothing madam, lots of times they break just from drinking water."

The typical old gossip has just presented herself for the

fourth time at the office of a nearby practitioner. The everlasting complaint, that to say the least aroused the angry passions of our brother, was an artificial denture that would fracture itself without the least provocation (according to her version). Finally exasperated to the limit and overcome with the foolish flow of dissatisfaction advanced by that worthy attendant to everybody's business but her own, he cried out—"If God Almighty made you a set of teeth that wouldn't last you, how under the shining sun do you expect me to?"

The patient was a lady of middle age. Subject of debate, the fate of a loose superior bicuspid which was in serious danger of terminating its abode in the alveolar process when the D. D.S. was suddenly accosted, "Now Doctor, all of my teeth have four roots and I know it will break my jaw." Operation postponed.

She was of Russian parentage which might in some measure atone for it. An upper cuspid had almost crossed the great divide and had the doom of extraction passed upon it, while the inevitable harm of delay was impressed upon her. "No sir, I would'n't have that tooth pulled and then go blind."

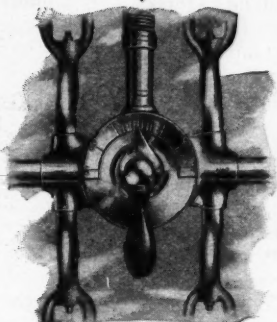
"Dr, I use Human's bone oxide because it is perfectly harmless."

THE DIVIDING LINE

This Side

RED

(Oxygen)



This Side

BLACK

(Nitrous Oxid)

The mixing chamber of the **CLARK NEW MODEL GAS APPARATUS** is finished in two colors, **RED** (Oxygen) and **BLACK** (N_2O).

That's the **COLOR SCHEME** and one of the many features of the **CLARK SIMPLE SYSTEM** that makes the outfit fool-proof and the method of administering so easy and certain. *You can't go wrong.* At the Dividing Color Line (the position in which the controller is above illustrated) 50% each N_2O and Oxygen is being administered.

The Black and Red Colored Graduations, showing the proportions, are a greater help than the highly paid trained assistant necessary to operate complicated outfits.

(Send for our pamphlet and lectures. They will tell you more of the Clark System and Apparatus.)

A. C. CLARK & COMPANY

Grand Crossing, Chicago



Clark
New Model
Double Bowl
Spittoon (with Finger
Bowl attachment)

When Buying a Spittoon

should you not consider

Strength, weight and material of valves
Sanitary and hygienic features
General Construction
Good daily service
Tubing durability
Bowl rigidity
Appearance?

CLARK SPITTOONS

Quality in Every Particular

(Write for our catalog describing all styles of Double and Single Bowl Spittoons.)

All Clark Spittoons are equipped with the De Witt Saliva Tubes

"Dr, does'nt chewing gum whiten the teeth? Some people actually think it foolish to use gum but I know it has saved my teeth." And from the way her mandible made round trips to the maxillary, you probably would have agreed with her.

"Dr, I had my teeth cleaned once before (a second inspection necessary to verify the fact) with that "pumy" stone and it took all the enamel clean off my teeth."

Thus we hear and are heard. Rarely does a day pass but what is brought before our personal observation the common circumstance of being witness to some entertaining (to put it mildly) passing expression. All the world joins in—everybody eventually contributes. We all laugh, but just as surely do we donate to others our due amount of mirth and merriment. So, when we are brought face to face with what we commonly term a "good one" we are tempted and if convenient generally do have our share of enjoyment in the game at the expense of the unlucky victim. But after all is said, both sense and non-sense, we are ultimately bound to conceive of these things as simply momentary interests—all falling into their allotted position in the swiftly passing panorama of life.

"All the world's a stage,
And all the men and women
merely players:

They have their exits and
their entrances;
And one man in his time plays
many parts,
His acts being seven ages."

THE NEGLECTED CHILD

Dr. Otis Nesbit, of Valparaiso, has for several years made a special medical study of school children. He speaks as follows of his experiences:

The physical examination of the pupils in the Valparaiso public schools in 1911-1912 was made by three physicians, each examining about the same number of pupils.

The principal defects and diseased conditions found in the pupils of the grades were as follows:

Number of pupils examined	609
Per cent. with hypertrophied tonsils	64
Per cent. with enlarged cervical glands	48
Per cent. with defects of vision	23
Per cent. with defect of breathing	15
Per cent. with adenoids	10
Per cent. with defect of hearing	6
Per cent. with anemia	5
Per cent. with discharging ear	1
Per cent. with goitre	12

In a study of the condition of children's teeth, made by seven dentists, the examinations including all the pupils in the Valparaiso public schools, it was found that 88 per cent. of them had diseased teeth. That 175 first perma-

New Cabinets at Bargain Prices



We have just issued a circular calling attention to a few patterns on which we are overstocked and some that we expect to discontinue.

In order to close them out promptly we have made exceptionally low prices and if interested in a new cabinet, you can hardly afford to overlook this opportunity.

Write now while the assortment is largest.

Terms to suit.

The American Cabinet Company

Two Rivers, Wisconsin

To insure prompt
attention address
"Department F"

After January 1st Parcel-Post shipments at the expense of purchaser for postage, registration or insurance.

ment molars has been extracted and that 1,400 were diseased.

If this same condition prevails over the entire State, there are in Indiana:

- 497,899 children with enlarged tonsils.
- 373,387 with enlarged cervical glands.
- 178,914 needing eye-glasses.
- 77,788 with adenoids.
- 116,683 other nasal obstructions.
- 46,673 with defective hearing.
- 7,778 with discharging ears.
- 93,346 with goitre.
- 684,542 with diseased teeth.
- 136,900 first molars have been extracted.
- 1,088,500 first molars are diseased.

We have not completed our study of the mental conditions, but if Goddard's findings should prevail in this State we have in our schools today 31,115 precocious children, 116,683 backward or mental defectives and 23,336 feeble-minded. This does not take into account 329,895 children in the State under school age.—Indiana Health Bulletin.

MOTION PICTURES IN ENGLAND

A new and admirable application of the cinematograph to the service of science is to be demonstrated in Paris on Tuesday afternoon. It is the creation of Dr. George Cunningham, of Cambridge, the originator of the movement which is now spreading

through Great Britain for the education of the public as to the vital necessity to the body politic of securing sound teeth and healthy mouths in school children. The crusade is entirely philanthropic and arises from the devoted work which Dr. Cunningham has carried on at Cambridge for several years past.

The result of his efforts there is shown by the fact that, whereas, when he first began his campaign only three per cent. of the children dealt with possessed sound, permanent teeth, within three years the percentage had reached seventy and remains at that figure.

Dr. Cunningham is now visiting Paris for the purpose of inducing the french educational authorities to embody in the ordinary public school curriculum systematic instruction in the care of the teeth. As a vehicle for teaching the children he has invented a series of fascinating cinematograph films in which, by some miraculous means, he has succeeded in showing the growth and decay of the teeth.

The tiny "baby teeth" are seen slowly piercing the gums, developing into the little pearls every mother adores, and then being gradually forced out of the way when the permanent "grinders" begin to insist on room to do their life work.

Another film shows the gradual decay of a tooth under the influence of evil minded microbes, encouraged by neglect of the tooth-brush

100 GALLON NITROUS OXID . \$2.25

The Most Valuable Information Ever Offered

on

Nitrous Oxid and Oxygen

Furnished free to any one
interested by filling in
the request blank and
mailing to

**The Lennox
Chemical Co.**

Owned and Operated by
The Bishop-Babcock-Becker Co.

1201 East 55th Street
Cleveland,
Ohio

Give Full
Information
Here

Are You Using
Nitrous Oxid
and Oxygen

Answer _____

Name _____

Address _____

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I am more interested in

THE LENNOX CHEMICAL CO., ESTABLISHED 30 YEARS

and other simple weapons. Altogether it is a fascinating lesson, which rivets the attention of grown-ups and children alike.

The films have been manufactured under their inventor's direction by the famous Pathe firm of Vincennes and will be shown in their completeness for the first time next Tuesday afternoon at a special demonstration which is to be given at the Cinema Recam-

ier, 3 Rue Recamier, a turning off the Rue de Severs, near the Bon Marche. M. Friedel, the director of the Musee Pedagogique, is taking a deep interest in the matter, and many distinguished educationalists will be present.

Tickets can be obtained by any member of the British or American colony by applying to Dr. Cunningham himself or Boussard, at 36, Rue du Colisee.

It's Not the M.D., But a Bigger D.D.S.

By JAMES C. CHISHOLM, M.D., D.D.S., Selma, Ala.

'Tis rather bad. Extremely
sad,

This degree agitation;
That fame seems less on the
D. D. S.

Than an M. D. education.

What should it be to you and
me?

True any way we take it,
Whether A B C or X Y Z,
Its simply what we make it.

The M. D. strives for human
lives,

In this he plies his art.
His science spans the whole
of man;

A specialist, only part.

And the M. D.s field is spread
a deal,

This science has no end.
We sometimes find the human
mind.

Is spread until its thin.

The D. D. S. puts mental
stress

In only one direction;
Small field to keep, his treasures deep;
Should dig and gain possession.

And the D. D. S. can take his
rest.

With indulgence often lingers.

His life, in part, only plies
his art

With educated fingers.

'Twas asked; the same, for
the dentists name

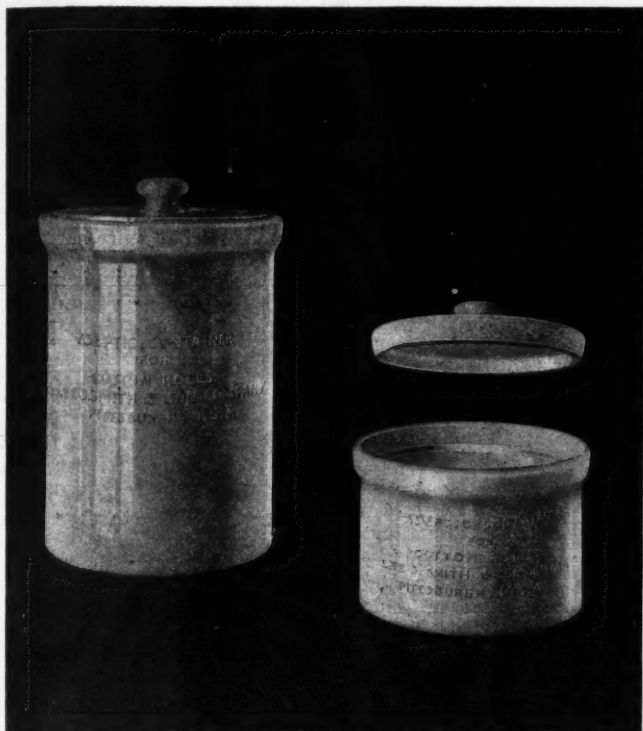
In days of our inception.
It was flaunted back, as to
the "quack."

Consigned us to oblivion.

"You have no choice" said the
M. D.s voice.

'Twas force of circumstances,
To create name, and build a
fame;

And thus, we took our
chances.



Aseptic Cotton Roll Jars

THESE beautiful white opal glass jars are made in two sizes—for 6 inch and for 1½ inch dental rolls.

The stopper of each is ground, rendering container air-tight and dust-proof.

As the contents are not visible to the patient, the jars are in entire harmony with other aseptic equipment.

Made especially for the discriminating dentist who believes in first impressions.

Prices { Large : : : \$1.25
each { Small : : : 1.00

LEE S. SMITH & SON COMPANY
PITTSBURGH, PA.

So, this degree, conceived,
you see

By the M. D.s abnegation.
And now to turn and face
their spurn
Would gain repudiation.

The time is spent, so be content

With honors it has won us.
Expand your will. Strive
harder still
To extirpate the fungus.

No door's so strong. No road
so long,
That wisdoms heart and
soul;

Kept at it right, with all the
might

Will gain the sought for
goal.

Fame's rarely won in a single
sun,

But, long and toilsome;
hence

'Tis not the name that wins
you fame

But what it represents.

All this to-day, by me and you
Is foolish, let it rest.

Because we see a big M. D.
And a little D. D. S.

Universal fame knows our
name;

It's stood an age of tests.

To be M. D. is not our need,
But, bigger D. D. S. d

MY CIGAR

Written for "The Tobacco Leaf" of New York, Nov. 10,
1910. By James R. Chisholm, M. D. D. D. S. Selma Ala.

Thou sprig of vegetation in cy-
lindric roll.

Thou tantalizing essence of so-
lace to my soul.

Thou genius Nicotinan; herba-
ceous rustica.

Thou multi-quadrivalvus. I bow
to my cigar.

Bereft of all companions, the
starved nerves unappeased,

Thou giv'st the sufferer comfort
consolation, rest and ease.

To the idle mind, diversion. A
friend in peace or war.

Can'st sooth a savage's passion:
this dry weed—my cigar.

Thou firey evanescence—when
wavering on the brink

With clouded brain, and troubl-
ed; thou giv'st the power to
think.

When toil-worn, thou art sooth-
ing. The wanderer near or
far,

Can'st relieve that aching long-
ing, by smoking—my cigar.

Thou art known in every coun-
try. Address't in any ton-
gue.

Can'st entertain a comrade, sans
women, wine or song.

With magic power seductive,
eclipse a guiding star.

Thy subject ever faithful, to
thee—my own cigar.

King, peasant, waif or Sulton,
hold'st thou in welded bans,

And rulest thou thy victims with
Spartan iron hands.

In ecstasy expectant, though
with thee he may spar,

He yields in subjugation while
smoking—my cigar.

Thou weed! Nectarean comfort;
herbaceous sprig of joy;

Thou friend! Where e'er we find
you, a pleasure to employ,

Thou nerve-food, rest and sol-
ace, a slave to these we are.

Thou king! Thou Master-pas-
sion! Thou Devil! Thou Ci-
gar.